***COMPLETE IN NOTEBOOK! COPY ALL FIGURES!***

CW32/HW32: Congruent Triangles – ALL CRITERIA

**Geometry**

**READ ALL DIRECTIONS! Failure to show** ALL WORK **and follow** all directions COMPLETELY **will result in LaSalle.**

|  |  |  |
| --- | --- | --- |
| 1. **REVIEW** So far we have a total of 5 congruence theorems! List each congruence theorem, list the criteria that must be met in order to use them, and draw an example. | | |
| 1. **EXPLAIN** Why do you think triangles used so often in the real world (i.e. buildings, bridges, design, ect.)? | | 1. **EXPLAIN** How do the 5 triangle congruence theorems make proving two triangles congruent more simple? |
| Directions: **Is it possible to prove that the triangles are congruent? If so, state which theorem you would use and write the 3 congruency statements that support your claim. If not, explain why not in at least 1 complete sentence.** | | |
| 1. ../../../../../Desktop/CW%2354%20Images/Screen%20Shot%202015-12-05%20at%2012.46.38% | 1. **../../../../../Desktop/CW%2354%20Images/1_2.png** | |
| 1. **../../../../../Desktop/CW%2354%20Images/Screen%20Shot%202015-12-05%20at%2012.48.08%** | 1. ../../../../../Desktop/CW%2354%20Images/1_3.png. | |

|  |  |
| --- | --- |
| Directions: **For each problem below, determine if it can be proven that each triangle is congruent. If so, select the theorem you would use and write the 3 congruency statements to support your claim. If select “Not congruent” and explain why not in at least one complete sentence.** | |
| 1. ../../../../../Desktop/CW%2354%20Images/Screen%20Shot%202015-12-05%20at%2012.48.08% 2. HL 3. Not Congruent 4. SAS 5. SSS | 1. ../../../../../Desktop/CW%2354%20Images/Screen%20Shot%202015-12-05%20at%2012.48.14% 2. ASA 3. HL 4. Not congruent 5. AAS |
| 1. ../../../../../Desktop/CW%2354%20Images/Screen%20Shot%202015-12-05%20at%2012.48.20%SSS 2. Not Congruent 3. SAS 4. ASA | 1. ../../../../../Desktop/CW%2354%20Images/Screen%20Shot%202015-12-05%20at%2012.48.24%Not congruent 2. SSS 3. AAS 4. ASA |
| 1. ../../../../../Desktop/CW%2354%20Images/Screen%20Shot%202015-12-05%20at%2012.48.29% 2. Not congruent 3. HL 4. AAS 5. SAS | 1. ../../../../../Desktop/CW%2354%20Images/2_6.png 2. Not congruent 3. SSS 4. HL 5. SAS |

|  |
| --- |
| **ALWAYS TRUE, SOMETIMES TRUE, NEVER TRUE** Fill in the blank with always, sometimes, or never to make the statement true. If your answer is sometimes, give a case of when it is true and a case of when it is true. If your answer is always or never, explain why. |
| 1. If two legs of a right triangle are congruent to the corresponding legs of another trigh ttriangle, the triangle are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ congruent. |
| 1. If two triangles are congruent, their corresponding angles are \_\_\_\_\_\_\_\_\_\_\_ congruent. |
| 1. If two angles are complementary, a side of one angle is \_\_\_\_\_\_\_\_\_\_\_\_\_ perpendicular to a side of the other angle. |
| 1. An equilateral triangle is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ congruent to an isoceles triangle. |
| 1. Two isosceles triangles are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ congruent if they have congruent vertex angles. |

Extra Practice:   
Larson Geometry Chapter 4 Review pg. 282-286. Use the selected answers in the back of the textbook to check your work!

#9-14  
#15-18  
#19-20  
#21-22  
#23-34  
#28-30  
#6-8